

1) Introduction

The BExBGL1D is a flameproof LED beacon which is certified to meet the ATEX directive 94/9/EC and the IECEx scheme. The beacon produces visual warning signals and can be used in hazardous areas where potentially flammable gas and dust atmospheres may be present. The BExBGL1D LED beacon has nine different flash patterns including a steady ON state and can also be remotely switched to a second and third flash pattern. The beacon can be used in Zone 1 and Zone 2 areas with gases in groups IIA, IIB and IIC and Temperature Classifications of T1, T2, T3, and T4. It can also be used in a temperature classification T5, if the upper ambient temperature is restricted to +40°C. The unit can be used in Zone 21 and Zone 22 areas for combustible dusts and has an IP rating of IP 67 and a surface temperature rating of T120°C or T105°C if the upper ambient temperature is restricted to +55°C and T95°C if the upper ambient temperature is restricted to +40°C.

2) Marking

All units have a rating label, which carries the following important information:-

Unit Type No. BExBGL1D

Input Voltage: DC Units 10-50V
AC Units 10-35V or 230V or 115V

Codes: Ex d IIC T4 for Ta -50°C to +70°C
Ex d IIC T5 for Ta -50°C to +40°C
Ex tD A21 T120°C based on max. Ta of +70°C

Certificate No's KEMA 00ATEX2006
IECEx KEM 10.0002

Epsilon x
Equipment Group and
Category:



II 2G/D

CE Marking
Notified Body No.



0518

Warnings: DO NOT OPEN WHEN AN EXPLOSIVE
GAS OR DUST ATMOSPHERE IS PRESENT

COVER BOLTS CLASS A4-80

USE HEAT RESISTING CABLES AND CABLE GLANDS
(Rated 110°C) AT AMB. TEMPERATURES OVER 40°C

Year of Construction /
Serial No. i.e. 10 / 1DB73000001

3) Type Approval Standards

The beacon has EC Type Examination and IECEx certificates issued by KEMA and have been approved to the following standards:-

EN60079-0:2006 IEC60079-0:2004 (Ed4) General Requirements
EN60079-1:2007 IEC60079-1:2007 (Ed6) Flameproof Enclosure 'd'

EN61241-0:2006 IEC61241-0:2004 (Ed1) Dust General
Requirements
EN61241-1:2004 IEC60079-1:2004 (Ed1) Dust Enclosures tD

4) Installation Requirements

The led beacons must be installed in accordance with the latest issues of the relevant parts of the BS EN 60079 specifications or the equivalent IEC specifications – Selection, Installation and maintenance of electrical apparatus for use in potentially explosive atmospheres (other than mining applications or explosive processing and manufacture):-

EN60079-14:2008 Electrical Installations in Hazardous
IEC60079-14:2007 (Ed4) Areas (other than mines)

EN60079-10:2003 Classification of Hazardous Areas
IEC60079-10:2008 (Ed1)

The installation of the units must also be in accordance with any local codes that may apply and should only be carried out by a competent electrical engineer who has the necessary training.

5) Zones, Gas Group, Category, IP Rating and Temperature Classification

The BExBGL1D beacons have been certified Ex d IIC T4 for Ta -50°C to +70°C and Ex d IIC T5 for Ta -50°C to +40°C for gas and IP67 T120°C Ta ≤ +70°C, T105°C Ta ≤ +55°C and T95°C Ta ≤ +40°C for dust. This means that the units can be installed in locations with the following conditions:-

Area Classification Gas:

Zone 1	Explosive gas air mixture likely to occur in normal operation.
Zone 2	Explosive gas air mixture not likely to occur, and if it does, it will only exist for a short time.

Gas Groupings:

Group IIA	Propane
Group IIB	Ethylene
Group IIC	Hydrogen and Acetylene

Temperature Classification:

T1	400° C	
T2	300° C	
T3	200° C	
T4	135° C	
T5	100° C	Amb. +40°C

Area Classification Dust:

Zone 21	Explosive dust air mixture likely to occur in normal operation.
Zone 22	Explosive dust air mixture not likely to occur, and if it does, it will only exist for a short time.

IP Rating: IP67 T120°C Ta ≤ +70°C
T105°C Ta ≤ +55°C
T95°C Ta ≤ +40°C

Equipment Category: 2G/D

Ambient Temperature Range: -50°C to +70°C
(T5 = +40°C)

6) Beacon Location and Mounting

The location of the beacons should be made with due regard to the area over which the warning signal must be visible. They should only be fixed to services that can carry the weight of the unit.

The beacons should be securely bolted to a suitable surface using the 7mm diameter boltholes in the stainless steel U shaped mounting bracket (see figure 1). The required angle can be achieved by loosening the two large bracket screws in the side of the unit, which allow adjustment of the beacon in steps of 18°. On completion of the installation the two large bracket adjustment screws on the side of the unit must be fully tightened to ensure that the unit cannot move in service.

SAFETY WARNING:

The flashdome guard must not be removed from the unit at any time.

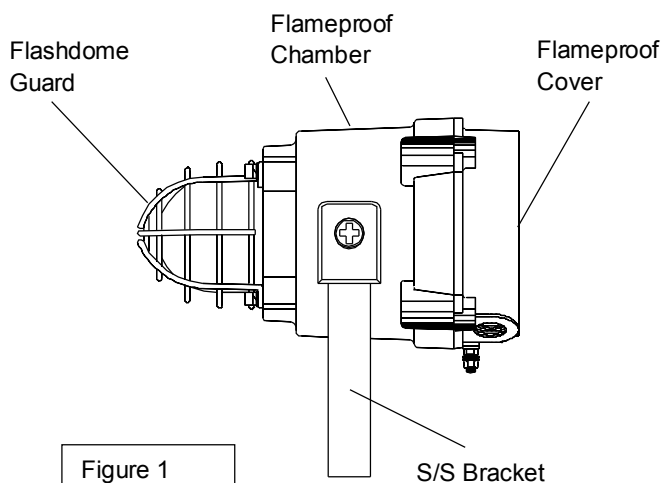


Figure 1

7) Access to the Flameproof Enclosure

In order to connect the electrical supply cables to the beacon it is necessary to remove the flameproof cover to gain access to the flameproof chamber. To achieve this remove the four M6 hexagon socket head screws (see figure 2) and withdraw the flameproof cover taking extreme care not to damage the flameproof joints in the process.

Note the four **M6 screws are Class A4-80 stainless steel and only screws of this category can be used on the beacons**. It is therefore important that these screws and their spring washers are kept in a safe place during installation.

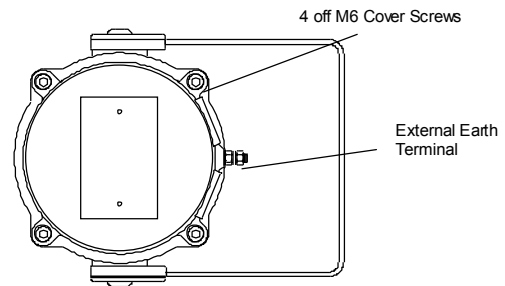


Figure 2

On completion of the cable wiring installation the flameproof joints should be inspected to ensure that they are clean and that they have not been damaged during installation. Also check that the earth bonding wire between the two casting sections is secure and the 'O' ring seal is in place. When replacing the flameproof cover casting ensure that it is square with the flameproof chamber casting before inserting. Carefully push the cover in place allowing time for the air to be expelled. Only after the cover is fully in place should the four M6 Stainless Steel A4-80 cover bolts and their spring washer be inserted and tightened down. If the cover jams while it is being inserted, carefully remove it and try again. Never use the cover bolts to force the cover into position.

8) Power Supply Selection

It is important that a suitable power supply is used to run the beacons. The power supply selected must have the necessary capacity to provide the input current to all of the beacons

The following table shows the input current taken by the various beacons:-

Unit Type	Nominal I/P Voltage	Input Current	Max. I/P
Volts			
BExBGL1D	10-50V DC	400mA@24V	50V
BExBGL1D	10-35V AC	812mA@20V	35V
BExBGL1D	230V AC	65mA	253V
BExBGL1D	115V AC	135mA	126V

The input current will vary according to the voltage input level. The current levels shown above are for nominal input voltage.

The above table also shows the maximum voltages at which the beacons can be operated.

9) Cable Selection

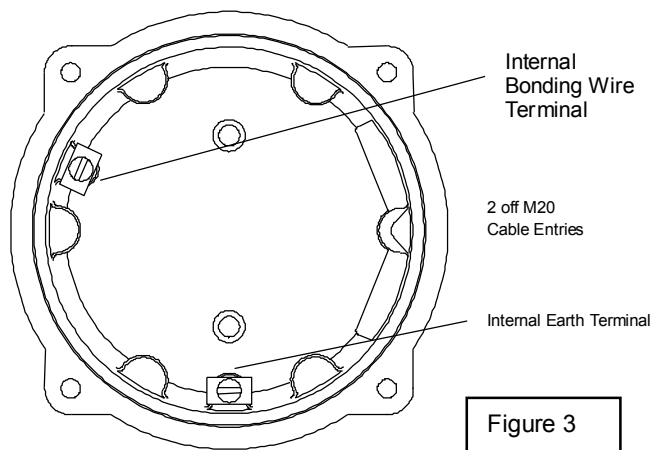
When selecting the cable size consideration must be given to the input current that each unit draws (see table above), the number of beacons on the line and the length of the cable runs. The cable size selected must have the necessary capacity to provide the input current to all of the beacons connected to the line.

SAFETY WARNING: If the BExBGL1D beacons are used at high ambient temperatures, i.e. over +40°C, then the cable entry temperature may exceed +70°C and therefore suitable heat resisting cables must be used, with a rated service temperature of at least 110°C.

10) Earthing

Both AC and DC beacon units must be connected to a good quality earth. The units are provided with internal and external earthing terminals which are both located on the terminal chamber section of the unit (see figures 2 and 3).

BExBGL1D Beacon Cover Internal View



When using the internal earth terminal ensure that the stainless steel M4 flat washer is between the incoming earth wire and the enclosure.

When using the external earth terminal a cable crimp lug must be used. The cable lug should be located between the two M5 stainless steel flat washers. The M5 stainless steel spring washer must be fixed between the outer flat washer and the M5 stainless steel nut to ensure that the cable lug is secured against loosening and twisting.

The internal earth bonding wire ensures that a good quality earth is maintained between the flameproof chamber casting and the flameproof cover casting.

11) Cable Glands

The BExBGL1D beacons have dual cable gland entries which have an M20 x 1.5 entry thread as standard. Only cable glands approved for Ex 'd' applications can be used, which must be suitable for the type of cable being used and also meet the requirements of the Ex 'd' flameproof installation standard EN60079-14:2008 / IEC60079-14:2007.

When only one cable entry is used the other one must be closed with an Ex 'd' flameproof blanking plug, which must be suitably approved for the installation requirements.

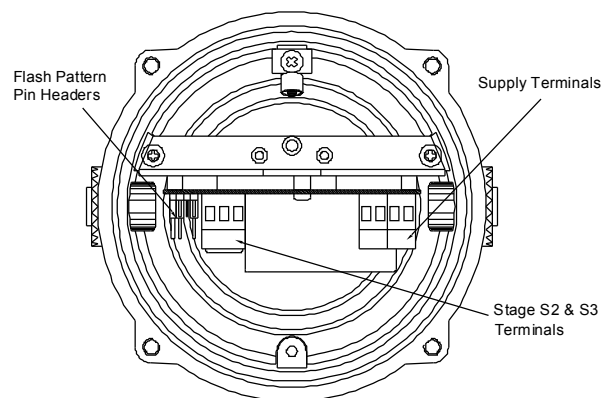
For combustible dust applications, the cable entry device and blanking elements shall be in type of explosion protection increased safety "e" or flameproof enclosure "d" and shall have an IP 6X rating according to EN 60529.

SAFETY WARNING: If the BExBGL1D beacons are used at high ambient temperatures, i.e. over +40°C, then the cable entry temperature may exceed +70°C and therefore suitable heat resisting cable glands must be used, with a rated service temperature of at least 110°C.

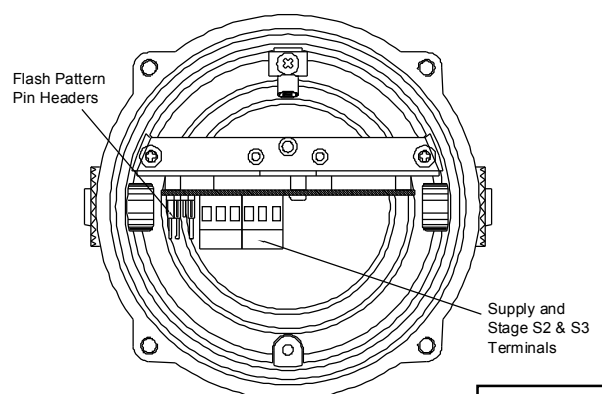
12) Cable Connections

The cable supply connections are made into the terminal blocks on the electronic pcb assembly located in the flameproof enclosure, see section 7 of this manual for access to the flameproof enclosure. The AC unit has two live terminals and two neutral terminals for the input and output supply wiring and the DC unit has two +ve terminals and two -ve terminals for the input and output supply wiring. Both units have S2 and S3 terminals to remotely change the flash pattern, see section 13 of this manual.

BExBGL1D AC LED Beacons



BExBGL1D DC LED Beacons



Wires having a cross sectional area of up to 2.5mm² can be connected to each terminal way. If an input and output wire is required a 2.5mm² wire can be connected to each terminal way. When connecting wires to the terminals great care should be taken to dress the wires so that when the cover is

inserted into the chamber the wires do not exert excess pressure on the terminal blocks. This is particularly important when using cables with large cross sectional areas such as 2.5mm².

13) Flash Pattern Selection and 2nd & 3rd Stages

The BExBGL1D LED beacons have 9 different flash patterns including one ON state that can be selected for the first stage. They can then be remotely switched to second and third stage flash patterns. The flash patterns are selected by pin headers on the pcb for both DC and AC units. The table on page four shows the pin header positions for the nine flash patterns and which patterns are available for the second and third stages. To operate the led beacon on stage one simply connect the supply voltage to the normal supply terminals (+ve and –ve for DC units, L and N for AC units).

The operation of the second and third stages is different for DC and AC units.

DC Units Second and Third Stage Selection

To change to the second stage flash pattern, simply connect a -ve supply line to terminal S2, while maintaining the dc supply to the +ve and –ve terminals. Similarly for the third stage flash pattern, connect a -ve supply line to terminal S3. The supply line to the S3 terminal will automatically override a supply to the S2 terminal.

AC Units Second and Third Stage Selection

To select the second and third stage flash patterns on the BExBGL1D AC beacons the Common (C) terminal on the three way terminal block on the pcb is connected to the S2 terminal for the second stage tone and the S3 terminal for the third stage tone.

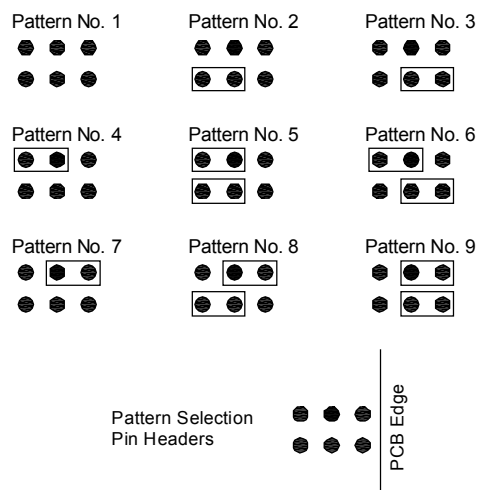
14) End of Line Monitoring (DC Units)

On the BExBGL1D DC beacons, dc reverse line monitoring can be used if required. All DC beacons have a blocking diode fitted in their supply input lines. An end of line monitoring diode or an end of line monitoring resistor can be connected across the +ve and –ve terminals. If an end of line resistor is used it must have a minimum resistance value of 3k3 ohms and a minimum wattage of 0.5 watts or a minimum resistance value of 500 ohms and a minimum wattage of 2 watts.

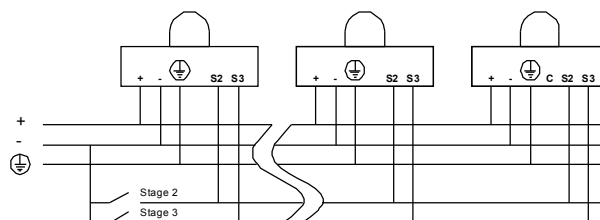
Flash Pattern Table

Stage 1 Pattern	LED Flash Pattern	Stage 2 Pattern	Stage 3 Pattern
1	ON	9	8
2	Rotating 3 LED on Fast	7	1
3	Rotating 6 LED on Fast	8	1
4	Rotating 3 LED on Slow	9	1
5	Rotating 6 LED on Slow	6	1
6	Double strike strobe 1 Hz	9	1
7	Single strike strobe 2 Hz	3	1
8	Double strike strobe 2 Hz	3	1
9	Alternate side flash 1:1 2 Hz	3	1

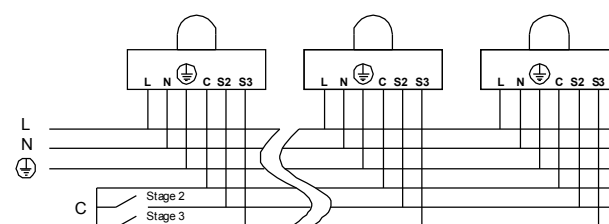
PIN HEADER POSITIONS



BExBGL1D DC LED Beacon Wiring



BExBGL1D AC LED Beacon Wiring



INSTRUCTION MANUAL (ATEX / IECEx) (GBR)

BExBGL1D Flameproof LED Beacon

For use in Flammable Gas and Dust Atmospheres

2) Marking


All units have a rating label, which carries the following important information:-

Unit Type No. BExBGL1D

Input Voltage: DC Units 10-50V
AC Units 10-35V or 230V or 115V

Codes: Ex d IIC T4 for Ta -50°C to +70°C
Ex d IIC T5 for Ta -50°C to +40°C
Ex tD A21 T120°C based on max. Ta of +70°C

Certificate No's KEMA 00ATEX2006
IECEx KEM 10.0002

Epsilon x  II 2G/D
Equipment Group and Category:

CE Marking  0518
Notified Body No.

Warnings: DO NOT OPEN WHEN AN EXPLOSIVE
GAS OR DUST ATMOSPHERE IS PRESENT

COVER BOLTS CLASS A4-80

USE HEAT RESISTING CABLES AND CABLE GLANDS
(Rated 110°C) AT AMB. TEMPERATURES OVER 40°C

4) Installation Requirements

The led beacons must be installed in accordance with the latest issues of the relevant parts of the BS EN 60079 specifications or the equivalent IEC specifications – Selection, Installation and maintenance of electrical apparatus for use in potentially explosive atmospheres (other than mining applications or explosive processing and manufacture):-

EN60079-14:2008 Electrical Installations in Hazardous
IEC60079-14:2007 (Ed4) Areas (other than mines)

EN60079-10:2003 Classification of Hazardous Areas
IEC60079-10:2008 (Ed1)

Installation should only be carried out by competent personnel and local codes of practice applied.

5) Zones, Gas Group, Category and Temperature Classification

The units can be installed in locations with the following conditions:-

Area Classification Gas:

Zone 1	Explosive gas air mixture likely to occur in normal operation.
Zone 2	Explosive gas air mixture not likely to occur, and if it does, it will only exist for a short time.

Gas Groupings:

Group IIA	Propane
Group IIB	Ethylene
Group IIC	Hydrogen and Acetylene

Temperature Classification:

T1	400° C
T2	300° C
T3	200° C
T4	135° C
T5	100° C
	Amb. +40°C

Area Classification Dust:

Zone 21	Explosive dust air mixture likely to occur in normal operation.
Zone 22	Explosive dust air mixture not likely to occur, and if it does, it will only exist for a short time.

IP Rating: IP67 T120°C Ta ≤ +70°C
T105°C Ta ≤ +55°C
T95°C Ta ≤ +40°C

Equipment Category: 2G/D

Ambient Temperature Range: -50°C to +70°C
(T5 = +40°C)

5) Beacon Location and Mounting

See drawing A

SAFETY WARNING: The flashdome guard must not be removed from the unit at any time.

6) Access to the Flameproof Enclosure

See drawing B

Note the four **M6 screws** are **Class A4-80 stainless steel** and **only screws of this category can be used on the beacons**. It is therefore important that these screws and their spring washers are kept in a safe place during installation.

8) Power Supply Selection

The system power supply must have the necessary capacity to provide the input current to all of the beacons connected to the system.

The following table shows the input current taken by the various beacons:-

Unit Type	Nominal I/P Voltage	Input Current	Max. I/P Volts
BExBGL1D	10-50V DC	400mA@24V	50V
BExBGL1D	10-35V AC	812mA@20V	35V
BExBGL1D	230V AC	65mA	253V
BExBGL1D	115V AC	135mA	126V

The above table also shows the maximum voltages at which the beacons can be operated.

9) Cable Selection

Cables must be capable of handling the current draw from all of the units on the line

SAFETY WARNING: If the BExBGL1D beacons are used at high ambient temperatures, i.e. over +40°C, then the cable entry temperature may exceed +70°C and therefore suitable heat resisting cables must be used, with a rated service temperature of at least 110°C.

10) Earthing

Both AC and DC beacon units must be connected to a good quality earth. The units are provided with internal and external earthing terminals which are both located on the terminal chamber section of the unit (see figures 2 and 3).

When using the internal earth terminal ensure that the stainless steel M4 flat washer is between the incoming earth wire and the enclosure.

When using the external earth terminal a cable crimp lug must be used. The cable lug should be located between the two M5 stainless steel flat washers. The M5 stainless steel spring washer must be fixed between the outer flat washer and the M5 stainless steel nut to ensure that the cable lug is secured against loosening and twisting.

The internal earth bonding wire ensures that a good quality earth is maintained between the flameproof chamber casting and the flameproof cover casting.

11) Cable Glands

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When only one cable entry is used the other one must be closed with an Ex 'd' flameproof blanking plug, which must be suitably approved for the installation requirements.

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12) Cable Connections

See drawings C and D / wiring diagram E

13) Flash Pattern Selection and 2nd & 3rd Stages

The BExBGL1D LED beacons have 9 different flash patterns including one ON state that can be selected for the first stage. They can then be remotely switched to second and third stage flash patterns. The flash patterns are selected by pin headers on the pcb for both DC and AC units. The table on page four shows the pin header positions for the nine flash patterns and which patterns are available for the second and third stages. To operate the led beacon on stage one simply connect the supply voltage to the normal supply terminals (+ve and -ve for DC units, L and N for AC units).

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DC Units Second and Third Stage Selection

To change to the second stage flash pattern, simply connect a -ve supply line to terminal S2, while maintaining the dc supply to the +ve and -ve terminals. Similarly for the third stage flash pattern, connect a -ve supply line to terminal S3. The supply line to the S3 terminal will automatically override a supply to the S2 terminal.

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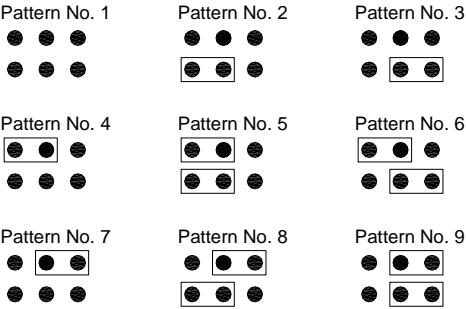
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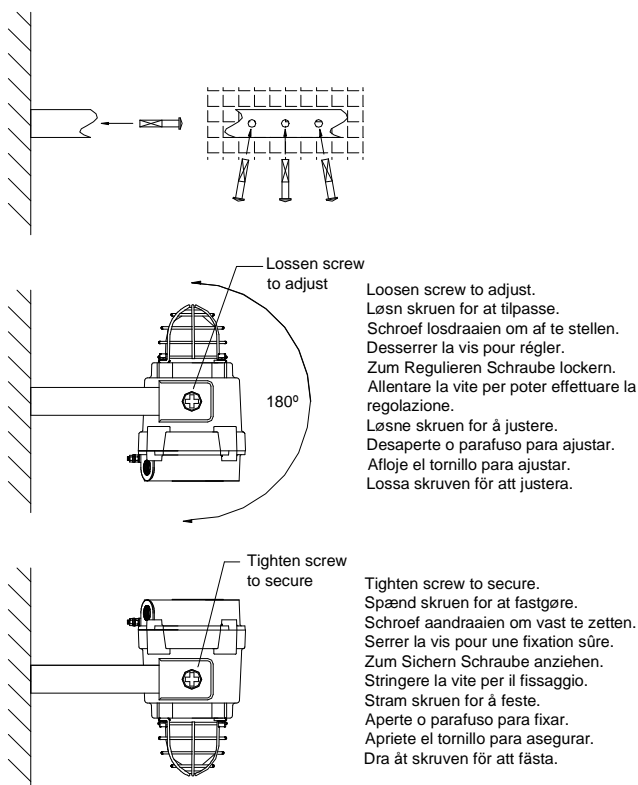
Flash Pattern Table

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4	Rotating 3 LED on Slow	9	1
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6	Double strike strobe 1 Hz	9	1
7	Single strike strobe 2 Hz	3	1
8	Double strike strobe 2 Hz	3	1
9	Alternate side flash 1:1 2 Hz	3	1

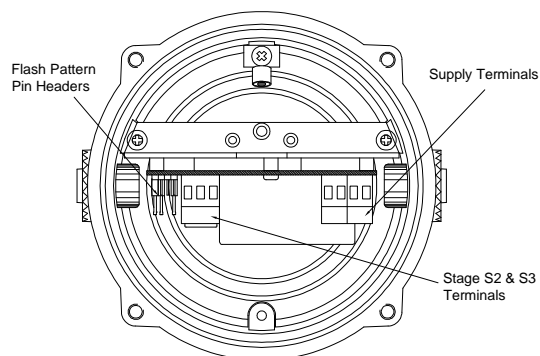
PIN HEADER POSITIONS



Drawing A

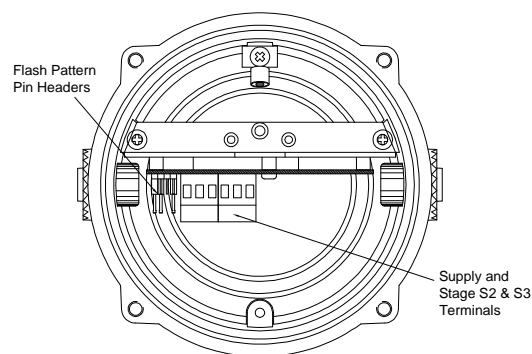


Drawing C



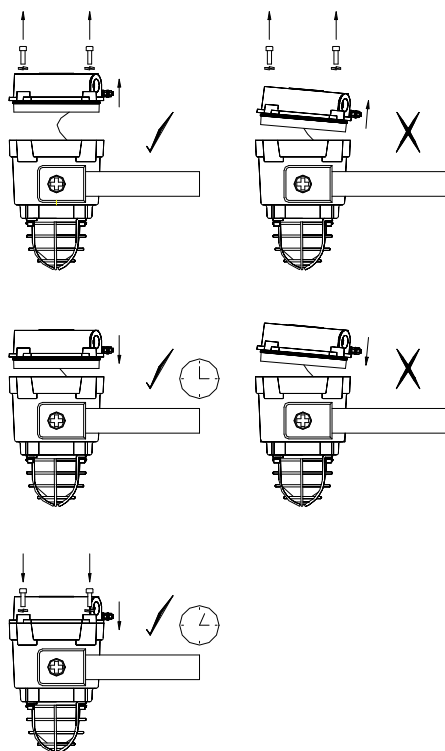
BExBGL1D AC LED

Drawing D



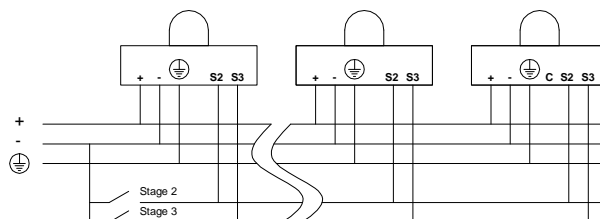
BExBGL1D DC LED

Drawing B

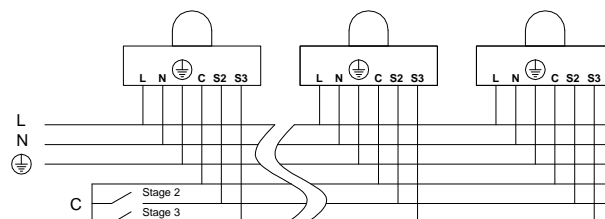


Wiring Diagram E

BExBGL1D DC LED Beacon Wiring



BExBGL1D AC LED Beacon Wiring



TECHNISCHE HINWEISE (ATEX / IECEx) (DEU)

BExBGL1D Explosionsgeschützte LED-Leuchte

Zum Einsatz in entflammbaren Gas- und Staubatmosphären

2) Kennzeichnung

Alle Geräte sind mit einem Typenschild mit den folgenden wichtigen Informationen versehen:-

Gerätetyp-Nr. BExBGL1D

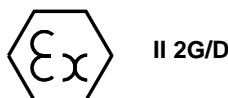
Eingangsspannung:

Gleichstromgeräte (DC) 10-50 V
Wechselstromgeräte (AC) 10-35V; 230V; 115V

Code: Ex d IIC T4 für Ta -50°C to +70°C
Ex d IIC T5 für Ta -50°C to +40°C
Ex tD A21 T120°C based on max. Ta of +70°C

Zertifikat-Nr. KEMA 00ATEX2006
IECEx KEM 10.0002

Epsilon x:
Gerätegruppe und
-kategorie:



CE-Kennzeichnung:
Nr. der demeldeten
Stelle:



Warnung NICHT IN EXPLOSIONSFÄHIGEN GAS- ODER
STAUBATMOSPHÄREN ÖFFNEN

ABDECKSCHRAUBEN KLASSE A4-80

WÄRMEBESTÄNDIGE KABEL UND
KABELVERSCHRAUBUNGEN VERWENDEN
(Nennleistung 110°C) BEI UMGEB.-TEMP. ÜBER 40°C

4) Installationsanforderungen

Die LED-Leuchten müssen gemäß den folgenden oder vergleichbaren Standards installiert werden.

EN60079-14:2008 Elektrische Installationen in
IEC60079-14:2007 (Ed4) Gefahrenbereichen (außer
Bergwerken)
EN60079-10:2003 Klassifizierung von Gefahrenbereichen
IEC60079-10:2008 (Ed1)

Die Installation sollte nur von qualifiziertem Fachpersonal vorgenommen werden. Örtliche anerkannte Verfahren sind zu beachten.

5) Zonen, Gasgruppe, Kategorie und Temperaturklassifizierung

Die Geräte können an Standorten aufgestellt werden, an denen die folgenden Bedingungen vorliegen:-

Bereichseinteilung Gas:

Zone 1	Bei normalem Betrieb kann mit hoher Wahrscheinlichkeit eine explosive Gas-Luft-Mischung vorliegen.
Zone 2	Explosive Gas-Luft-Mischung unwahrscheinlich und sollte sie doch auftreten, dann nur kurzfristig.

Gasgruppen:

Gruppe IIA	Propan
Gruppe IIB	Äthylen
Gruppe IIC	Wasserstoff und Azetylen

Temperaturklassifizierung:

T1	400° C
T2	300° C
T3	200° C
T4	135° C
T5	100° C
	Amb. +40°C

Bereichseinteilung Staub:

Zone 21	Explosionsgefährdetes Staub-/Luftgemisch, das beim normalen Betrieb durchaus auftreten kann
Zone 22	Explosionsgefährdetes Staub-/Luftgemisch, dessen Auftreten unwahrscheinlich bzw. von kurzer Dauer ist.

IP-Schutzklasse: IP67 T120°C Ta ≤ +70°C
T105°C Ta ≤ +55°C
T95°C Ta ≤ +40°C

Geräteklasse: 2G/D

Umgebungstemperaturbereich: -50°C to +70°C
(T5 = +40°C)

6) Standort und Montage der Leuchte

Siehe Zeichnung A

SICHERHEITSHINWEIS: Der Schutz der Signalhaube darf auf keinen Fall vom Gerät entfernt werden.

7) Zugang zum schwer entflammbaren Gehäuse

Siehe Zeichnung B

Hinweis: Die vier **Schrauben M6 sind aus Edelstahl Klasse A4-80 gefertigt. Für diese Leuchten sind nur Schrauben dieser Kategorie geeignet.** Diese Schrauben und die zugehörigen Federringe sind beim Einbau daher sorgfältig aufzubewahren.

8) Stromversorgung

Die Stromversorgung der Anlage muss ausreichen, um alle angeschlossenen Leuchten mit Eingangsstrom zu versorgen.

Folgende Tabelle zeigt die Eingangsstromaufnahme der verschiedenen Leuchten:-

Gerätetyp	Eingangsspannung	Eingangsstrom	Max. I/P Spannung
BExBGL1D	10-50V DC	400mA @24V	50V
BExBGL1D	10-35V AC	812mA @20V	35V
BExBGL1D	230V AC	65mA	253V
BExBGL1D	115V AC	135mA	126V

Obige Tabelle zeigt auch die maximale Spannung an, mit der die Leuchten betrieben werden können.

9) Kabelwahl

Die Kabel müssen den Strom aller angeschlossenen Geräte führen können.

SICHERHEITSHINWEIS: Wenn die BExBGL1 Leuchte bei hohen Umgebungstemperaturen eingesetzt werden (d. h. bei über +40°C), kann die Kabeleingangstemperatur +70°C übersteigen. Daher sind geeignete hitzebeständige Kabel mit einer Nennbetriebstemperatur von mindestens 110°C zu verwenden.

10) Erdung

Die Wechsel- und Gleichstrom-Leuchten müssen mit einer hochwertigen Erdung verbunden werden. Die Geräte sind mit internen und externen Erdklemmen (am Klemmkammerteil des Geräts, siehe Abb. 2 und 3) versehen.

Bei Verwendung der internen Erdklemme ist sicherzustellen, dass die M4-Edelstahl-Unterlegscheibe zwischen Eingangs-Erdkabel und dem Gehäuse liegt.

Bei Verwendung der externen Erdklemme ist ein Quetschkabelschuh zu verwenden, der zwischen den beiden flachen M5-Edelstahl-Unterlegscheiben eingesetzt werden sollte. Die M5-Unterlegscheiben sind zwischen der äußeren flachen Unterlegscheibe und der M5-Edelstahlmutter einzusetzen, um zu gewährleisten, dass der Kabelschuh sich nicht lösen oder verdrehen kann.

Der interne Erdungs-Abbindedraht stellt sicher, dass zwischen dem Gehäuse der drucksicheren Kammer und dem Gehäuse der drucksicheren Abdeckung eine sichere Erdung besteht.

11) Kabelverschraubungen

Die BExBGL1D Leuchten sind mit doppelten Kabelverschraubungen mit Eingangsgewinden von M20 x1.5 versehen. Es dürfen nur Kabelverschraubungen verwendet werden, die für Ex 'd'-Anwendungen zugelassen sind. Die Kabelverschraubungen müssen für den eingesetzten Kabeltyp geeignet sein und zudem den Anforderungen der Ex 'd'-Norm zur Installation drucksicherer Geräte EN60079-14:2008 / IEC60079-14:2007 entsprechen.

Wenn nur ein Kabeleingang verwendet wird, muss der andere mit einem druckfesten Ex 'd' Stopfen, der für die Installationsbedingungen zugelassen ist, verschlossen werden.

Bei Anwendungen in brennbaren Staubbereichen sind Kabelverschraubungen und Stopfen, die mit erhöhter Sicherheit (Typ „e“) oder druckfester Kapselung („Typ „d“) geschützt sind, zu installieren und müssen der Schutzklasse IP 6X gemäß EN60529:1992 entsprechen.

SICHERHEITSHINWEIS: Wenn die BExBGL1D Leuchten bei hohen Umgebungstemperaturen eingesetzt werden (d. h. bei über +40°C), kann die Kabeleingangstemperatur +70°C übersteigen. Daher sind geeignete hitzebeständige Kabel mit einer Nennbetriebstemperatur von mindestens 110°C zu verwenden.

12) Kabelanschlüsse

Siehe Zeichnung C und D / Schaltbild E

13) Blinkmusterwahl und 2. & 3. Stufen

Die BExBGL1D LED-Leuchten verfügen über 9 verschiedene Blinkmuster einschließlich eines AN-Status (Dauerleuchte), der als erste Alarmstufe gewählt werden kann. Anschließend können die Stufen 2 und 3 Blitzmuster extern angesteuert werden. Die Blitzmuster sowohl für die DC- als auch die AC-Geräte werden über Kontaktbrücken auf der Leiterplatte eingestellt. Die Tabelle auf Seite 3 zeigt die Positionen der Kontaktbrücken für die verschiedenen Blinkmuster und welche Blinkmuster als 2. und 3. Alarmstufe zur Verfügung stehen. Um die LED-Leuchte auf Stufe 1 zu betreiben, muss die Netzspannung an die normalen Netzanschlussklemmen angeschlossen werden (+ und – für DC-Geräte, L und N für AC-Geräte).

Der Betrieb der 2. und 3. Stufe ist bei DC- und AC-Geräten unterschiedlich.

DC-Geräte – Auswahl der 2. und 3. Stufe

Um auf die 2. Stufe umzuschalten, muss die - minus Klemme mit der S2 Klemme verbunden werden, während die DC-Versorgungsleitung an den + und – Klemmen bleibt. Um auf die 3. Stufe umzuschalten, muss die - minus Klemme mit der S3 Klemme verbunden werden. Die Zuleitung zur S3-Klemme hebt automatisch den Anschluss an die S2-Klemme auf.

AC-Geräte – Auswahl der 2. und 3. Stufe

Um die Blitzmuster der Stufe 2 und 3 auf einer BExBGL1D AC-Leuchte auszuwählen, wird die C-Klemme der Drei-Wege-Anschlussleiste auf der Leiterplatte für die zweite Stufe an die S2-Klemme und für die dritte Stufe an die S3-Klemme angeschlossen.

15) Überwachung des Leitungsendes (Gleichstromgeräte)

Bei BExBGL1D-Gleichstromgeräten kann bei Bedarf eine Wechselstrom-Sperre eingesetzt werden. Alle Gleichstrom-Leuchten sind mit einer Sperrdiode versehen, die in die Netz-Eingangsleitungen eingesetzt ist. Eine Überwachungsdiode oder ein Kontrollwiderstand für das Leitungsende können über die Klemmen + und – angeschlossen werden. Wird ein Widerstand für das Leitungsende verwendet, muss sein Widerstandswert mindestens 3k3 Ohm und die Mindestleistung 0,5 Watt betragen, oder aber es muss ein Widerstandswert von mindestens 500 Ohm und eine Mindestleistung von 2 Watt vorliegen.

Blinkmuster-Tabelle

Stufe 1 Muster	LED Blinkmuster	Stufe 2 Muster	Stufe 3 Muster
1	AN	9	8
2	3 LED rotierend, schnell	7	1
3	6 LED rotierend, schnell	8	1
4	3 LED rotierend, langsam	9	1
5	6 LED rotierend, langsam	6	1
6	Doppelblitz 1 Hz	9	1
7	Einzelblitz 2 Hz	3	1
8	Doppelblitz 2 Hz	3	1
9	Wechselblitz 2 Hz	3	1

Positionen der Kontaktbrücken

Pattern No. 1



Pattern No. 2



Pattern No. 3



Pattern No. 4



Pattern No. 5



Pattern No. 6



Pattern No. 7



Pattern No. 8



Pattern No. 9



Pattern Selection
Pin Headers



PCB Edge

EC DECLARATION OF CONFORMITY



Manufacturer: European Safety Systems Ltd.
Impress House, Mansell Road, Acton
London, W3 7QH, UK

Equipment Type: BExBG05D, BExBG05E,
BExBG10D, BExBG10E,
BExBG15D, BExBG15E,
BExBG21D,
BExTBG05D,
BExBGL1D

Directive 94/9/EC: Electrical and Mechanical equipment for use in explosive atmospheres (ATEX)

Notified Body for EC type Examination:	KEMA Quality B.V. Notified Body No.: 0344 Utrechtseweg 310, 6812 AR Arnhem, The Netherlands
EC-type Examination Certificate:	KEMA 00ATEX2006
Notified Body for Quality Assurance Notification:	Sira Certification Service Notified Body No.: 0518 Rake Lane, Eccleston, Chester CH4 9JN, UK
Quality Assurance Notification:	SIRA 05 ATEX M342
Provisions fulfilled by the equipment:	II2 G Ex d IIC T3 to T6 or II2 G Exde IIC T4 to T6 II2 D Ex tD A21 IP66 or IP67 T85 °C to T200 °C
Standards applied:	EN 60079-0:2006 EN 60079-1:2007 EN 60079-7:2003 EN 61241-0:2006 EN 61241-1:2004

Directive 2004/108/EC: Electromagnetic Compatibility Directive (EMC)

Standards applied:	EN 61000-6-1:2007 EN 61000-6-2:2005 EN 61000-6-3:2007 EN 61000-6-4:2007
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The standards EN 60079-0: 2006, EN 60079-7:2003, EN 61241-0:2006 and EN 61241-1:2004 are no longer harmonized. The requirements of these standards have been checked against the harmonized standards EN 60079-0:2009, EN 60079-7:2007 and EN 60079-31:2009 and there were no major technical changes affecting the latest technical knowledge for the products listed above.

On behalf of European Safety Systems Ltd., I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.

A handwritten signature in black ink, appearing to read 'Martin Streetz'.

Martin Streetz
Quality Assurance Manager

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